theory, which also had originated within Descartes' fertile mind—the theory of reflex action. This theory he had propounded as the explanation of all actions of those soulless machines, the bodies of animals. It was an excellent guess; but it was not until the early nineteenth century that increasing knowledge of the nervous systems of men and animals justified Descartes' theory by making it seem that all the nervous system, including all the brain (of man as well as of animals), is essentially a vastly complicated system of reflex-arcs, loops of nerve-fibres connecting the various sensory organs with the various muscles; the brain being merely a vast switch-board through which the connexions between sensory and motor organs are automatically varied.

The last step towards an avowedly mechanical psychology consisted in the combination of the theory of association of ideas with the theory of reflex action. David Hartley, the contemporary of David Hume, had made the first move in this direction before the middle of the eighteenth century ; suggesting that all memory is grounded in the persistence in the brain of changes induced in it by sense-impressions. It was only necessary to combine this with Hume's doctrine that ideas are memory images or faint survivals of sense-impressions; and there resulted the modern theory that all we call mind or mental process is but a kind of reflexion of the mechanical working of the reflex processes of the brain. When this stage was reached the theory of

association of ideas had become transformed into a theory of the association of brain-traces through cross-connexions in the brain; and Descartes' theory that animals are reflex machines was confidently extended to man. Thus in the course of rather more than two centuries after Descartes initiated